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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,311	01/31/2002	Kyung Chul Woo	3449-0190P	5488

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EXAMINER

JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,311

Applicant(s)

WOO ET AL.

Examiner

Mirellys Jagan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/17/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/31/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 3 and 5 are objected to because of the following informalities:

There is lack of antecedent basis in the claims for “the measured value” in lines 4, respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 62192196 to Yamamoto et al [hereinafter Yamamoto].

Yamamoto discloses a washing machine having:

a water gauge chamber (14) extending along an outer side of an outer edge of an outer tub (2) of the washing machine; and

a water temperature measuring part (18) including a temperature sensor and signal lines for connecting the sensor to a circuit, the part mounted in a seating portion of a hollow chamber cap (17) that is located at a bottom edge of the water gauge chamber to close an opened bottom portion of the gauge chamber,

wherein the hollow space of the cap faces downward and the water in the gauge chamber is above the cap, and the part is disposed in a recess formed underneath a top surface of the cap so that the temperature of the water is measured without the sensor directly contacting the water (see figures 2 and 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of U.S. Patent 5,743,646 to O'Connell et al [hereinafter O'Connell].

Yamamoto discloses a machine having all of the limitations of claim 2, as stated above in paragraph 3, except for the cap having a heat insulating material inserted into its hollow space.

O'Connell discloses a temperature sensor for measuring temperature within a chamber. The temperature sensor is in a hollow probe that is filled with a heat insulating material. O'Connell teaches that it is beneficial to fill the probe with the material in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor (see column 3, lines 18-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the machine of Yamamoto by filling the hollow interior of the cap with a heat insulating material, as taught by O'Connell, in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor.

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6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto.

Yamamoto discloses a washing machine having:

a water gauge chamber (14) extending along an outer side of an outer edge of an outer tub (2) of the washing machine; and

a water temperature measuring part (18) including a temperature sensor and signal lines for connecting the sensor to a circuit, the part mounted in a seating portion of a hollow chamber cap (17) that is located at a bottom edge of the water gauge chamber to close an opened bottom portion of the gauge chamber,

wherein the hollow space of the cap faces downward and the water in the gauge chamber is above the cap; the part is disposed in a recess formed underneath a top surface of the cap and the sensor is disposed in a cylindrical probe of the cap, the probe extending upward from the cap to directly contact the water such that the temperature of the water is measured without the sensor directly contacting the water; and the bottom edge of the cap is substantially level with a bottom edge of the outer tub (see figures 2 and 3).

Yamamoto does not disclose the cap and the probe being made of two separate parts such that the probe extends through a hole in the cap to contact the water.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cap disclosed by Yamamoto by making the cap of two separate parts such that the probe extends through a hole in the cap to contact the water in order to allow the length of the probe and sensor within the water to be adjustable thereby maintaining the sensor within the water level of a particular machine, and since it has been held that the mere

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fact that a given structure is integral does not preclude its consisting of various elements. See Nerwin v. Erlichman, 168 USPQ 177, 179 (PTO Bd. of Int.1969).

7. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of O'Connell.

Yamamoto discloses a machine having all of the limitations of claim 6, as stated above in paragraph 6, except for the cap having a heat insulating material inserted into its hollow space.

O'Connell discloses a temperature sensor for measuring temperature within a chamber. The temperature sensor is in a hollow probe that is filled with a heat insulating material. O'Connell teaches that it is beneficial to fill the probe with the material in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor (see column 3, lines 18-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the machine of Yamamoto by filling the hollow interior of the cap with a heat insulating material, as taught by O'Connell, in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor.

8. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto.

Yamamoto discloses a machine having all of the limitations of claims 8 and 10, as stated above in paragraph 3, but is silent as to the manner in which the cap is attached to the chamber, and the particular material of the cap, and therefore does not disclose the cap being welded to the bottom edge of the chamber, and the cap being made of a plastic material.

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Referring to claim 8, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cap disclosed by Yamamoto by welding the cap to the chamber in order to seal the opening at the bottom of the chamber and prevent water from leaking out.

Referring to claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the machine disclosed by Yamamoto by making the cap of a plastic material in order to use a less expensive material, and since the particular type of material claimed by applicant is considered to be the use of a “preferred” or “optimum” material out of a plurality of well known materials that a person having ordinary skill in the art at the time the invention was made would have been able to provide based on the intended use of applicant’s apparatus, i.e., suitability for the intended use of applicant’s apparatus, which in this case is to provide a housing for a temperature sensor to measure the temperature of water in a washing machine. See *In re Leshin*, 125 USPQ 416 (CCPA 1960), where the courts held that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious.

Response to Arguments

9. Applicant's arguments with respect to claims 1-6 and 8-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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The following patent and publication disclose a washing machine having temperature-sensing means:

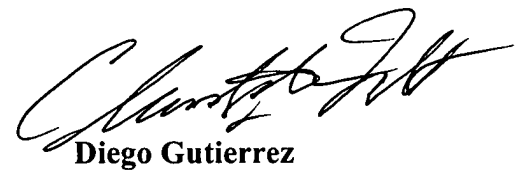
U.S. Patent 5,072,473 to Thuruta et al
Japanese Patent 05031290 to Ishikawa et al
Japanese Patent 05031290 to Araki

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 9AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
April 2, 2004



Diego Gutierrez
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PRIMARY EXAMINER